

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously Presented) An electrically isolated power transfer MEMS device for delivering electric power to a load, the device comprising:

a source generator including a movable member, wherein the source generator converts an electrical input signal to a displacement of the movable member;

a ~~power transfer structure defining beam~~ having an input end in communication with the movable member that receives the displacement, and an output end opposite the input end that communicates the displacement, wherein at least a portion of the ~~power transfer structure beam~~ between the input and output ends is insulating to prevent electrical conduction between the input end and the output end;

an electrical generator disposed at a ~~second~~ the output end of the ~~device beam~~ receiving the displacement from the output end of the ~~power transfer structure beam~~ and, in response to the displacement, ~~generates~~ generating electrical power that is delivered to the load;

wherein the electrical generator comprises an electrical loop formed of at least one of:  
a plurality of movable arms connected to the beam and electrically connected in series  
and;

a plurality of movable arms connected to the beam and electrically connected in parallel;  
~~having movable conductive arm in mechanical communication with the beam,~~

wherein movement of the beam deflects the ~~arm~~ plurality of arms in the presence of a magnetic field to generate power for the load.

2-9. (Canceled)

10. (Original) The device as recited in claim 1, wherein the source generator comprises a Lorentz actuator including a movable arm in mechanical communication with the beam, wherein electrical current is supplied to the arm in the presence of a magnetic field to generate a force that displaces the movable member.

11. (Original) The device as recited in claim 10, wherein the Lorentz actuator receives the electrical power from a source that is selected from the group consisting of an ac source and a dc source.

12. (Original) The device as recited in claim 11, wherein the source is provided by the dc power source, wherein the generator further comprises a switch in electrical communication with the source to deliver pulses of electricity to the movable arm.

13. (Currently Amended) The device as recited in claim 1, wherein the source generator comprises an electrostatic generator having a set of capacitor plates including at least one movable plate that is in mechanical communication with the power transfer structure.

14. (Original) The device as recited in claim 13, wherein the capacitor plates receive electrical power from a source that is selected from the group consisting of: an ac source and a dc source.

15. (Original) The device as recited in claim 14, wherein the electrostatic generator draws power from the dc power source, and wherein the electrostatic generator further comprises a switch in electrical communication with the source to deliver pulses of electricity to the capacitor plates.

16. (Original) The device as recited in claim 13, wherein the electrostatic generator receives a voltage input from a piezoelectric actuator.

17. (Original) The device as recited in claim 13, wherein the electrostatic actuator receives a voltage input from a thermocouple.

18. (Currently Amended) The device as recited in claim 1, wherein the power transfer structure includes a lever having a first end pivotally attached to a substrate, and a second end

opposite the first end, wherein the input end is disposed proximal the first end, and wherein the output end is disposed proximal the second end.

19. (Original) The device as recited in claim 1, further comprising a plurality of source generators connected to a common electrical input.

20. (Original) The device as recited in claim 1, wherein the power transfer structure oscillates during operation, further comprising compensation elements to maintain the oscillation of the power transfer structure at a resonant frequency.

21. (Currently Amended) The device as recited in claim 1, wherein the source generator further comprises a bi-morph.

22.- 57. (Cancelled)